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COMPARISON OF FARM PROGRAM AND EXPECTED YIELDS FOR OHIO CORN FARMERS

Since 1986, the yields which determine government income deficiency payments to farmers have been frozen at 1981-1985 levels. Farm groups argue that these yields, usually referred to as program or Agricultural Stabilization and Conservation Service (ASCS) yields, should be updated to reflect the increase in yields since the early 1980's. On the other hand, concern exists that updating ASCS yields could significantly increase the cost of farm programs. To provide insights into these policy arguments, ASCS yields for corn are compared with expected average corn yields for a sample of Ohio farmers.

Calculation of ASCS Yield

Presently a farm's ASCS yield is calculated by averaging program yields for the years 1981 through 1985, after first eliminating the high and low program yields. The program yield for each year between 1981 and 1985 equals the average of the farm's proven or assigned yields for the five previous crop years. For example, the program yield for 1981 equals the average of the farm's proven or assigned yields for the 1976 through 1980 crops.

Proven yield is based on a farm's actual yield as documented by grain slips, measured bins, and certified or determined acres. If yields can not be documented (which is the usual

case), a farmer's yield is assigned the average program yield for similar farms in the area as judged and established by the county ASCS committee.

Data

The data used for this study are taken from the 1990 Ohio Farm Longitudinal Household Survey. This survey collected information during the spring of 1991 from a randomly selected sample of approximately 1,000 Ohio farm households. The surveyed households were asked for the yields of their crops on a per acre basis, including (1) ASCS corn yield, (2) average corn yield expected for 1991, and (3) actual corn yield in 1990.

Of the surveyed farm households, 461 harvested corn in 1990, provided information on expected yield, and reported that they had a corn base and yield established with ASCS. For these 461 farms, expected average yield in 1991 ranged from 60 to 210 bushels per acre, with an average of 123 bushels. In comparison, actual corn yield in 1990 for these farmers averaged 121 bushels per acre, the same as the average yield for the state of Ohio. ASCS corn yield ranged from 68 to 165 bushels per acre, with an average of 110.8 bushels. According to the Ohio state ASCS office, the average ASCS yield for Ohio was 110.5 bushels in 1991. Thus, the averages for farmers analyzed in this study were similar to the comparable averages for Ohio.

Two variables were calculated: (1) ASCS yield minus expected average yield in 1991 and (2) ASCS yield minus 1990 actual yield. Only the results for ASCS minus expected average yield are presented. This choice was made in part because the results are similar for the two calculated variables. In addition, expected average yield is a more stable measure of production

than actual yield because short run weather influences are removed. To illustrate this consideration, standard deviation, a measure of variation, was 24.8 bushels per acre for 1990 actual yield, but only 19.1 bushels per acre for 1991 expected yield.

ASCS Versus Expected Yield

Almost 60 percent of the farmers analyzed in this study had an ASCS yield which was at least five bushels lower than their expected yield (Graph 1). Included in this 60 percent were 16 percent who reported an ASCS yield at least 25 bushels below their expected yield. On the other hand, 19 percent of the farmers had an ASCS yield which exceeded expected yield by five or more bushels per acre. Thus, the difference between ASCS and expected yield varied substantially.

Of the 461 farmers included in this study, 338 participated in the 1990 corn program. If expected yield had been used instead of ASCS yield to determine 1990 income deficiency payments, 22.5% of the 338 farmers would have received lower payments while 66.6% would have received larger payments. Excluding consideration of payment limitations, average per farm payment would have increased from \$8,025 to \$8,768, or 9.3%.

Who Wins? Who Loses?

A key policy question is which farmers will win and which farmers will lose if ASCS yields are updated to reflect expected yields. Statistical analysis revealed that the answer to this question is strongly related to a farmer's expected yield. Specifically, for farms with an expected yield less than 85 bushels per acre, ASCS yield averaged 20 bushels more than

expected yield (Graph 2). In contrast, for farms with an expected yield which exceeded 145 bushels per acre, ASCS yield averaged 32 bushels less than expected yields. These yield differences imply that government payment per acre would increase 25.6 percent for farms with expected yields greater than 145 bushels but would decrease 21.2 percent for farms with an expected yield less than 85 bushels.

Two factors may explain the conclusion that farmers with higher expected yields would gain more from updating ASCS yields. First, farms with higher expected yields in 1991 may have experienced faster increases in their yields during the 1980s than farmers with lower expected yields. Second, the use of program yields on similar farms to establish ASCS yields if actual yields are not available may have created a more uniform set of ASCS yields than the actual yields of farms warrant. In other words, the use of yields other than actual yields may work to the advantage of farmers with lower yields but to the disadvantage of farmers with higher yields.

Conclusions

- The majority of Ohio farmers in this study had an ASCS yield which was less than their expected yield, and thus would receive increased government income payments if ASCS yields were updated to reflect current yields.
- Not all Ohio farmers would benefit from updating ASCS yields. Approximately one-fifth would experience a decline in their income deficiency payments.

- The distributional impacts of updating ASCS yields vary significantly across farmers.

Updating ASCS yields will benefit farmers with higher current yields, and hurt farmers with lower current yields.

- In the aggregate, updating ASCS yields to reflect current yields will increase deficiency payments to Ohio farmers by approximately 10 percent. This will translate into higher federal cost for farm programs.

